Effectiveness of Exercise on Fatigue in Hemodialysis Patients: a Randomized Controlled Trial

Farzaneh Salehi
Mehlagha Dehghan
Parvin Manglian
Mohammad Reza Ebadzadeh
Kerman University of Medical Sciences, Iran

Effectiveness of exercise on fatigue in hemodialysis patients: a randomized controlled trialFarzaneh Salehi1, Mahlagha Dehghan2 , Parvin Mangolian Shahrbabaki3* and Mohammad Reza Ebadzadeh4Background: Hemodialysis patients are constantly dealing with numerous problems such as fatigue due to the chronic nature and the side effects of hemodialysis, which negatively affects the quality of their lives. Fatigue is a subjective sense of weakness, loss of energy, tiredness, and malaise. It is known as a biological warning when human health is at risk. This disorder reduces the sense of wellbeing and has numerous effects on the physical, emotional. Cognitive dimensions of patient experience .this study aimed to determine the effectiveness of exercising on mini-bikes on fatigue in hemodialysis patients. Study design and setting: This study is a randomized controlled clinical trial. Thirty-seven hemodialysis patients participated in the study. The patients were randomly allocated to either the intervention group (n = 20) or the control group (n = 17). The participants in the intervention group exercised on mini-bikes for 20 min twice a week for three months. Demographic questionnaire included questions on age, gender, education, income, the number of children, exercise, duration of dialysis, cause of dialysis, transplant rejection, and other diseases, and Multidimensional Fatigue Inventory (used to measure the level of fatigue) were used to collect information. The patient's fatigue was measured four times during and after the intervention. Multidimensional Fatigue Inventory was used to measure the fatigue level. The total score in the MFI is 4 to 20 for each domain, with the resulting total fatigue score ranging from 20 to 100; thus, the higher the score, the higher the level of fatigue. Data were analyzed by SPSS 18. The repeated-measures ANOVA was used to compare the fatigue scores within each group and between the groups at different times. The results showed that rehabilitation through exercising using mini-bikes had a significant impact on preventing further fatigue build-up in hemodialysis patients, making the mini-bike an effective nonpharmaceutical intervention preventing the increase in fatigue experienced by patients undergoing hemodialysis. Discussion: The present study showed that exercise with mini bikes prevented the increase in fatigue and its subscales, especially mental fatigue, in the test group. On the other hand, the control group experienced a progressive increase in their fatigue levels, which amounted to a statistically significant level in later months. This intervention supports the study hypothesis that exercise with mini bikes can affect fatigue among hemodialysis patients. The results of this study are important because, on the one hand, patients are increasingly showing interest in non-pharmaceutical methods. On the other, specialists refuse to include non-pharmaceutical methods that are not scientifically confirmed in their intervention regimens. The present study results showed that most of the participants in the two groups suffered from fatigue before the intervention.

***Keywords*:** *Cycling, Exercise, Fatigue, Hemodialysis*